Electromagnetism & Optics Laboratory
Physics 132L - 002

Spring 2017

Instructor: *Dr. Chad A. Middleton*
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Classroom: *Wubben Hall 214*
Time: *F 1-2:45 pm*
Office hours: *MW 10-11 am*
TR 9-10 am
F 12-1 pm

Course Description:
Physics is an experimental science. The nature and validity of the theoretical framework is inferred by the outcomes of experiments, these experiments must be able to be performed repeatedly.
PHYS 132L is the lab that accompanies PHYS 132. In this course, you will conduct experiments and make observations of various physical phenomena. The goal of this course is to help reinforce the theoretical framework developed in PHYS 132 by getting hands-on experience by doing experiments.

Course Requirements:
This class will meet once per week during the weeks listed below. During each class meeting, you will complete one lab assignment. The details of the lab assignment will vary from week to week, but will typically entail completing an assignment or tutorial. You will only be allowed to submit a completed lab assignment if you were present for the *entire* lab when the experiment was performed.

Attendance:
Class attendance is MANDATORY! If you must miss a lab, you must contact me PRIOR to the lab meeting. An excused absence will result in the scheduling of a lab make-up. An unexcused absence will result in a zero for that particular lab.

Grading Scale:

Percentage Score	Letter Grade	Percentage Score	Letter Grade
90-100	A	60-69	D
80-89	B	Below 60	F
70-79	C		

Accommodation for Students with Physical and Learning Disabilities:
In coordination with Educational Access Services, reasonable accommodations will be provided for qualified students with disabilities.

Students must register with the EAS office to receive assistance. Please meet with the instructor the first week of class for information and/or contact Dana VandeBurgt, the Coordinator of Educational Access Services, directly by phone at 248-1801, or in person in Houston Hall, Suite 108.

Academic Integrity:

- For CMU policy on such matters, please refer to 2016-2017 CMU Catalog, pp. 46.

Course Calendar

Date	
Jan 20	*No Labs*
Jan 27	Lab 1
Feb 3	Lab 2
Feb 10	Lab 3
Feb 17	Lab 4
Feb 24	Lab 5
Mar 3	Lab 6
Mar 10	Lab 7
Mar 17	Lab 8
Mar 24	*Spring Break – No Labs*
Mar 31	Lab 9
Apr 7	Lab 10
Apr 14	Lab 11
Apr 21	Lab 12
Apr 28	*Student Showcase – No Labs*
May 5	*Lab Makeup*

General Education Objectives:

This course is part of CMU's general education curriculum. Course content is designed to meet the following objectives of CMU's general education program:

1. Understand the structure and discipline of mathematical thought and its use in problem-solving
2. Have knowledge of the natural world and an understanding of scientific methods

Program-Level Student Learning Objectives:

This course satisfies the following Physics-degree student learning objectives:

1. Articulate the knowledge base and show fluency with the ideas and techniques of the major fields of physics (electromagnetism).
2. Use laboratory equipment and experimental techniques to investigate experimentally physical phenomena.
3. Communicate effectively about topics in physics verbally and in writing.